



General

Guideline Title

American Academy of Orthopaedic Surgeons appropriate use criteria for the management of pediatric supracondylar humerus fractures.

Bibliographic Source(s)

American Academy of Orthopaedic Surgeons (AAOS). American Academy of Orthopaedic Surgeons appropriate use criteria for the management of pediatric supracondylar humerus fractures. Rosemont (IL): American Academy of Orthopaedic Surgeons (AAOS); 2014 Sep 5. 570 p. [2 references]

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Recommendations

Major Recommendations

Assumptions of the Writing Panel

Before these Appropriate Use Criteria (AUC) are consulted, it is assumed that:

1. The patient is healthy enough to undergo surgery if indicated.
2. A thorough history and physical examination of the patient has been conducted with special attention to the integumentary system, other injuries, neurologic and vascular exam and other medical problems. If the patient is too young or incapable of cooperating, this will be noted in the patient record.
3. Adequate radiographs have been obtained and examined by the clinician.
4. The surgeon or surgeons who care for this child can perform the appropriate orthopaedic procedures.
5. The surgery, when indicated, will be performed in a timely fashion to allow ideal treatment of the fracture with special consideration given to neurovascular status, soft tissue swelling, and family situation.
6. The surgeon will perform the surgery in an appropriate location. Some supracondylar humerus fractures patients may require in-hospital monitoring.
7. The facility has proper implants, ancillary equipment available, and capable support personnel.
8. If a patient has an open fracture, antibiotic administration and appropriate wound care are performed in a timely fashion.
9. The patient can be splinted in a position of comfort and monitored adequately while awaiting operating room (OR) availability.
10. The fracture occurs in a patient with open physes and is a pediatric pattern that does not require open reduction and dual plating construct

(e.g., an adult pattern intercondylar distal humerus fracture).

11. Particular care will be taken in children before distal humeral epiphyseal ossification (e.g., newborns, infants, and toddlers) to assess for the possibility of transphyseal or low supracondylar humerus fracture (arthrogram, magnetic resonance imaging [MRI], etc.).
12. Those patients, especially under the age of two, with fracture severity inconsistent with the described mechanism should be assessed for the possibility that this fracture resulted from non-accidental injury.
13. Type III fractures and those with significant pain or swelling will be monitored in-hospital by a qualified clinician for changes in neurologic, vascular or pain status until access to the OR is available.
14. The facility has the ability to evaluate and treat compartment syndrome emergently. Patient is nil per os (nothing by mouth, NPO) ready for anesthesia; however, NPO status should not delay patient's surgery if the limb is in jeopardy.
15. Direct manipulation at fracture site through an incision or preexisting wound is considered open reduction.
16. The open soft tissue envelope refers to the soft tissue associated with the supracondylar humerus fracture and no other associated injuries.
17. For closed fractures, open reduction assumes closed measures were tried, and failed.
18. For new onset nerve deficit after fracture treatment, the surgeon will reassess the fracture reduction and fixation for possible nerve injury.

Results of Appropriateness Ratings

The AUC tables (see pages 20-563 in the original guideline document) contain the final appropriateness ratings assigned by the sixteen members of the voting panel. Patient characteristics are found under the column titled "Scenario." The AUC for each patient scenario can be found within each of the 10 treatment rows. These criteria are formatted by appropriateness labels (i.e., "R"=Rarely Appropriate, "M"=May Be Appropriate, and "A"=Appropriate), median rating, and + or - indicating agreement or disagreement amongst the voting panel, respectively.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Pediatric supracondylar humerus fractures

Guideline Category

Management

Treatment

Clinical Specialty

Emergency Medicine

Family Practice

Orthopedic Surgery

Pediatrics

Intended Users

Hospitals

Physicians

Guideline Objective(s)

- To help determine the appropriateness of clinical practice guideline recommendations for the heterogeneous patient population routinely seen in practice
- To develop criteria in order to improve patient care and obtain the best outcomes while considering the subtleties and distinctions necessary in making clinical decisions
- To determine appropriateness of various health care services for pediatric supracondylar fractures

Target Population

Infants and children with supracondylar humerus fractures

Interventions and Practices Considered

1. Patient history and physical examination with special attention to the integumentary system, other injuries, neurologic and vascular exam and other medical problems
2. Radiographs
3. Antibiotic administration and appropriate wound care (open fracture)
4. Assessment for the possibility of transphyseal or low supracondylar humerus fracture (arthrogram, magnetic resonance imaging [MRI], etc.)
5. Assessed for the possibility that the fracture resulted from non-accidental injury (if indicated)
6. Splinting and monitoring for changes in neurologic, vascular or pain status until an operating room (OR) is available
7. Avoidance of surgery delay for nil per os (nothing by mouth, NPO) status
8. Surgical repair
 - Closed reduction with pinning (lateral or crossed) and immobilization
 - Open reduction (including direct manipulation at fracture site through an incision or preexisting wound), pinning and immobilization
 - Reassessment of the fracture reduction and fixation for possible nerve injury

The following interventions were considered but not recommended:

Immobilization with cast or splint without reduction
Reduction with subsequent casting at 70-90 degrees
Reduction with subsequent casting at >90 degrees
Traction
External fixation

Note: See the original guideline document for appropriateness ratings for each intervention.

Major Outcomes Considered

- Pain score
- Duration of pain
- Resumption of normal activities
- Return to function
- Patient satisfaction
- Flynn score
- Elbow range of motion impairment
- Ulnar nerve injury
- Pin site infection
- Change in humerocapitellar and Baumann's angle
- Loss of motion
- Reoperation
- Other complications

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Concurrent with the Writing Panel developing the criteria, the American Academy of Orthopaedic Surgeons (AAOS) Evidence-Based Medicine Unit undertook a literature review based on the results of the AAOS Clinical Practice Guideline on Treatment of Pediatric Supracondylar Humerus Fractures (see the "Availability of Companion Documents" field) and all literature published after the release of the clinical practice guideline related to the treatment of pediatric supracondylar humerus fractures. This literature review informed the decisions relevant to the indications identified by the writing panel when they were available and necessary. The literature review also considered lower quality evidence when the best available evidence (i.e., randomized control trials) did not contain information relevant to the clinical scenarios. The full results of the literature review can be reviewed by visiting the AAOS PEER (Presentation and Evaluation of Evidence-Based Research) Tool at <http://aaos.webauthor.com/go/peer/>

The literature search was conducted in January 2014. MEDLINE, EMBASE, Cochrane Library, and CINAHL databases were searched. The specific time period covered by the literature search was from January 1969 to December 2013. The search terms used and the inclusion and exclusion criteria can be found in the Methodology section of the clinical practice guideline on the same topic (see the National Guideline Clearinghouse [NGC] summary of the AAOS guideline [American Academy of Orthopaedic Surgeons clinical practice guideline on the treatment of pediatric supracondylar humerus fractures](#)).

Number of Source Documents

2871 studies were initially identified by the literature search. 94 studies were subsequently included as evidence following application of inclusion and exclusion criteria.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Not Given)

Rating Scheme for the Strength of the Evidence

For information on how the quality of data was evaluated, see the National Guideline Clearinghouse (NGC) summary of the American Academy of Orthopaedic Surgeons (AAOS) guideline [American Academy of Orthopaedic Surgeons clinical practice guideline on the treatment of pediatric supracondylar humerus fractures](#).

Methods Used to Analyze the Evidence

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

The purpose of this appropriate use criteria (AUC) is to help determine the appropriateness of clinical practice guideline recommendations for the heterogeneous patient population routinely seen in practice. The best available scientific evidence is synthesized with collective expert opinion on topics where gold standard randomized clinical trials are not available or are inadequately detailed for identifying distinct patient types. When there is evidence corroborated by consensus that expected benefits substantially outweigh potential risks, exclusive of cost, a procedure is determined to be appropriate. The American Academy of Orthopaedic Surgeons (AAOS) uses the Research and Development/University of California, Los Angeles (RAND/UCLA) Appropriateness Method (RAM). The process includes these steps: reviewing the results of the evidence analysis,

compiling a list of clinical vignettes, and having an expert panel comprised of representatives from multiple medical specialties to determine the appropriateness of each of the clinical indications for treatment as "Appropriate," "May be Appropriate," or "Rarely Appropriate."

Methods Used to Formulate the Recommendations

Expert Consensus (Delphi)

Description of Methods Used to Formulate the Recommendations

Three panels participated in the development of the American Academy of Orthopaedic Surgeons (AAOS) Appropriate Use Criteria for Management of Pediatric Supracondylar Humerus Fractures (see the list in the original guideline document). Members of the writing panel developed a list of 220 patient scenarios and 14 treatments. The review panel reviewed these scenarios and treatments independently to ensure that they were representative of patients and scenarios clinicians are likely to encounter. The voting panel participated in two rounds of voting. During the first round of voting, the voting panel was given approximately one month to independently rate the appropriateness of the ten treatments for the 220 patient scenarios as "Appropriate", "May Be Appropriate", or "Rarely Appropriate" via an electronic ballot. After the first round of appropriateness ratings were submitted, AAOS staff calculated the median ratings for each patient scenario and specific treatment. An in-person voting panel meeting was held in Rosemont, IL on August 12th of 2014. During this meeting, voting panel members addressed the scenarios/treatments which resulted in disagreement (definition of disagreement can be found in Table 3 in the original guideline document). The voting panel members were asked to re-rate their first round ratings during and after the voting panel meeting, only if they were persuaded to do so by the discussion and available evidence. Voting occurred during the in-person meeting and continued for approximately one week following the meeting. The voting panel determined appropriateness by rating scenarios (i.e., criteria) as "Appropriate", "May Be Appropriate", or "Rarely Appropriate". There was no attempt to obtain consensus about appropriateness.

Developing Criteria

Members of the Appropriate Use Criteria (AUC) for Management of Pediatric Supracondylar Humerus Fractures writing panel, who are orthopaedic specialists in treating pediatric supracondylar humerus fractures, developed clinical scenarios using the following guiding principles:

- Patient scenarios must include a broad spectrum of patients that may be eligible for treatment of pediatric supracondylar humerus fractures [*comprehensive*]
- Patient indications must classify patients into a unique scenario [*mutually exclusive*]
- Patient indications must consistently classify similar patients into the same scenario [*reliable, valid indicators*]

The writing panel developed the scenarios by categorizing patients in terms of indications evident during the clinical decision making process (see Figure 1 in the original guideline document). These scenarios relied upon definitions and general assumptions, mutually agreed upon by the writing panel during the development of the scenarios. These definitions and assumptions were necessary to provide consistency in the interpretation of the clinical scenarios among experts voting on the scenarios and readers using the final criteria.

Formulating Indications and Scenarios

The AUC writing panel began the development of the scenarios by identifying clinical indications typical of patients commonly presenting with supracondylar humerus fractures in clinical practice. Indications are most often parameters observable by the clinician, including symptoms or results of diagnostic tests. Additionally, "human factor" (e.g., activity level) or demographic variables can be considered.

Indications identified in clinical trials (derived from patient selection criteria) included in AAOS Clinical Practice Guidelines (CPG) served as a starting point for the writing panel and ensured that these Appropriate Use Criteria referred to the evidence base for the Treatment of Pediatric Supracondylar Humerus Fractures CPG. The writing panel considered this initial list and other indications based on their clinical expertise and selected the most clinically relevant indications (see Table 5 in the original guideline document). The writing panel then defined distinct classes for each indication in order to stratify/categorize the indication (see Table 5 in the original guideline document).

The writing panel organized these indications into a matrix of clinical scenarios that addressed all combinations of the classifications. The writing panel was given the opportunity to remove any scenarios that rarely occur in clinical practice, but agreed that all scenarios were clinically relevant. The major clinical decision making indications chosen by the writing panel divided the matrix of clinical scenarios into chapters, as follows: fracture type, vascular status, associated nerve injuries, soft tissue envelope, ipsilateral radius and/or ulna fracture, and degree of swelling (see Table 5 in the original guideline document).

Creating Definitions and Assumptions

The AUC for Management of Pediatric Supracondylar Humerus Fractures writing panel constructed concise and explicit definitions for the indications and classifications. This standardization helped ensure the way that the writing panel defined fracture type, vascular status, associated nerve injuries, soft tissue envelope, ipsilateral radius and/or ulna fracture, and degree of swelling was consistent among those reading the clinical scenario matrix or the final criteria. Definitions drew explicit boundaries when possible and were based on standard medical practice or existing literature.

Additionally, the writing panel formulated a list of general assumptions in order to provide more consistent interpretations of a scenario. These assumptions differed from definitions in that they identified circumstances that exist outside of the control of the clinical decision making process.

Assumptions also addressed the use of existing published literature regarding the effectiveness of treatment and/or the procedural skill level of physicians. Additionally, assumptions highlighted intrinsic methods described in this document such as the role of cost considerations in rating appropriateness or the validity of the definition of appropriateness. The main goal of assumptions was to focus scenarios so that they apply to the average patient presenting to an average physician at an average facility.

The definitions and assumptions should provide all readers with a common starting point in interpreting the clinical scenarios. This list of definitions and assumptions accompanied the matrix of clinical scenarios in all stages of the development of this AUC and appears in the Assumptions of the Writing Panel section in the original guideline document (see also the "Major Recommendations" field).

Voting Panel Modifications to Writing Panel Materials

At the start of the in-person voting panel meeting, the voting panel was reminded that they have the ability to amend the original writing panel materials if the amendments resulted in more clinically relevant and practical criteria. In order to amend the original materials, the voting panel members were instructed that a member must make a motion to amend and another member must "second" that motion, after which a vote is conducted. If a majority of voting panel members voted "yes" to amend the original materials, the amendments were accepted.

See the "Methods" section in the original guideline document for details of the voting panel modifications to the original AUC materials.

Reviewing Scenarios

After the writing panel developed the scenarios, the AUC for Management of Pediatric Supracondylar Humerus Fractures review panel reviewed the proposed chapters in order to ensure that they were representative of patients and scenarios clinicians are likely to encounter. The review panel was comprised of both orthopaedic surgeons who routinely perform treatments for pediatric supracondylar humerus fractures and other specialties that may refer patients with pediatric supracondylar humerus fractures to a specialist. No member of this panel participated in the writing panel's initial development of the scenarios or participated in the voting panel's appropriateness rating of the scenarios.

Review panel members considered the lists of scenarios, definitions, assumptions, and the literature review associated with each scenario. Each independent reviewer suggested potential modifications to the content or structure of the lists and literature review. The writing panel provided the final determination of modifications to the indications, scenarios, assumptions, and literature review that would be included in the materials sent to the voting panel.

Determining Appropriateness

Voting Panel

A multidisciplinary panel of clinicians was assembled to determine the appropriateness of treatments for pediatric supracondylar humerus fractures. This group consisted of approximately 50% specialists and 50% non-specialists. Two non-voting moderators, who are orthopaedic surgeons but are not specialists in the treatment of pediatric supracondylar humerus fractures, facilitated the voting panel. The moderators were familiar with the methods and procedures of AAOS Appropriate Use Criteria and led the panel (as non-voters) in discussions. Additionally, no member of the voting panel was involved in the development (writing panel) or independent review (review panel) of the scenarios.

The voting panel used a modified Delphi procedure to determine appropriateness ratings. The voting panel participated in two rounds of voting while considering evidence-based information provided in the literature review. While cost is often a relevant consideration, panelists focused their appropriateness ratings on the effectiveness of treatment for pediatric supracondylar humerus fractures.

Rating Appropriateness

When rating the appropriateness of a scenario, the voting panel considered the following definition:

"An appropriate treatment for pediatric supracondylar humerus fractures is one for which the treatment is generally acceptable, is a reasonable

approach for the indication, and is likely to improve the patients health outcomes or survival."

They then rated each scenario using their best clinical judgment, taking into consideration the available evidence, for an average patient presenting to an average physician at an average facility as follows:

Table. Interpreting the 9-Point Appropriateness Scale

Rating	Explanation
7-9	Appropriate: Appropriate for the indication provided, meaning treatment is generally acceptable and is a reasonable approach for the indication and is likely to improve the patient's health outcomes or survival.
4-6	May Be Appropriate: Uncertain for the indication provided, meaning treatment may be acceptable and may be a reasonable approach for the indication, but with uncertainty implying that more research and/or patient information is needed to further classify the indication.
1-3	Rarely Appropriate: Rarely an appropriate option for management of patients in this population due to the lack of a clear benefit/risk advantage; rarely an effective option for individual care plans; exceptions should have documentation of the clinical reasons for proceeding with this care option (i.e., procedure is not generally acceptable and is not generally reasonable for the indication).

Each panelist uses the scale below to record their response for each scenario:

Appropriateness of [Topic]

- Rarely Appropriate: 1, 2, 3
- May Be Appropriate: 4, 5, 6
- Appropriate: 7, 8, 9

Round One Voting

The first round of voting occurred after completion of the independent review of the scenarios by the review panel and approval of the final indications, scenarios, and assumptions by the writing panel. The voting panel rated the scenarios electronically using a personalized ballot created by AAOS staff using the AAOS AUC Electronic Ballot Tool. There was no interaction between panel members while completing the first round of voting. Panelists considered the following materials:

- The instructions for rating appropriateness
- The completed literature review, that is appropriately referenced when evidence is available for a scenario
- The list of indications, definitions, and assumptions, to ensure consistency in the interpretation of the clinical scenarios

Round Two Voting

The second round of voting occurred after the in-person voting panel meeting on August 12th, 2014. Before the in-person meeting started, each panelist received a personalized document that included their first round ratings along with summarized results of the first-round ratings that resulted in disagreement. These results indicated the frequency of ratings for a scenario for all panelists. The document contained no identifying information for other panelists' ratings. The moderator also used a document that summarized the results of the panelists' first round voting. These personalized documents served as the basis for discussions of scenarios which resulted in disagreement.

During the discussion, the voting panel members were allowed to record a new rating for any scenarios if they were persuaded to do so by the discussion or the evidence. Additionally, voting panel members were allowed to submit any amended ratings (i.e., second round ratings) for one week after the in-person meeting. After the final ratings were submitted, AAOS staff used the AAOS AUC Electronic Ballot Tool to export the median values and level of agreement for all voting items. There was no attempt to obtain consensus among the panel members.

Final Ratings

Using the median value of the second round ratings, AAOS staff determined the final levels of appropriateness. Disagreement among raters can affect the final rating. Agreement and disagreement were determined using the BIOMED definitions of Agreement and Disagreement, as reported in the RAND/UCLA Appropriate Method User's Manual, for a panel of 14-16 voting members. For this panel size, disagreement is defined as

when ≥ 5 members' appropriateness ratings fell within the appropriate (7-9) and rarely appropriate (1-3) ranges for any scenario (i.e., ≥ 5 members' ratings fell between 1-3 and ≥ 5 members' ratings fell between 7-9 on any given scenario and its treatment). If there is still disagreement in the voting panel ratings after the second round of voting, that voting item is labeled as "5" regardless of median score. Agreement is defined as ≤ 4 panelists rated outside of the 3-point range containing the median.

See Table 2 and Table 3 in the original guideline document for more information on final ratings.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

The American Academy of Orthopaedic Surgeons (AAOS) Appropriate Use Criteria (AUC) Section, the AAOS Council on Research and Quality, and the AAOS Board of Directors sequentially approved the Appropriate Use Criteria for Management of Pediatric Supracondylar Humerus Fractures.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is not specifically stated for each recommendation.

This Appropriate Use Criteria (AUC) for Management of Pediatric Supracondylar Humerus Fractures is based on a review of the available literature regarding treatment of pediatric supracondylar humerus fractures and a list of clinical scenarios (i.e., criteria) constructed and voted on by experts in orthopaedic surgery and other relevant medical fields.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Improvement of the management of pediatric supracondylar humerus fractures

Potential Harms

Not stated

Qualifying Statements

Qualifying Statements

- Volunteer physicians from multiple medical specialties created and categorized these Appropriate Use Criteria (AUC). These AUC are not intended to be comprehensive or a fixed protocol, as some patients may require more or less treatment or different means of diagnosis. These AUC represent patients and situations that clinicians treating or diagnosing musculoskeletal conditions are most likely to encounter. The clinician's independent medical judgment, given the individual patient's clinical circumstances, should always determine patient care and treatment.
- These criteria should not be construed as including all indications or excluding indications reasonably directed to obtaining the same results. The criteria intend to address the most common clinical scenarios facing all appropriately trained surgeons and all qualified physicians managing patients under consideration for managing pediatric supracondylar humerus fractures. The ultimate judgment regarding any specific criteria should address all circumstances presented by the patient and the needs and resources particular to the locality or institution. It is also important to state that these criteria were developed as guidelines and are not meant to supersede clinician expertise and experience or patient preference.
- Some drugs or medical devices referenced or described in this document may not have been cleared by the U.S. Food and Drug Administration (FDA) or may have been cleared for a specific use only. The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or device he or she wishes to use in clinical practice.

Implementation of the Guideline

Description of Implementation Strategy

Disseminating Appropriate Use Criteria

Publication of the Appropriate Use Criteria (AUC) document is on the American Academy of Orthopaedic surgeons (AAOS) website at <http://www.aaos.org/auc> . This document provides interested readers with full documentation about the development of AUC and further details of the criteria ratings.

AUCs are first announced by an Academy press release and then published on the AAOS website. AUC summaries are published in the *AAOS Now* and the *Journal of the American Academy of Orthopaedic Surgeons (JAAOS)*. In addition, the Academy's Annual Meeting showcases the AUCs on Academy Row and at Scientific Exhibits.

The dissemination efforts of AUC include web-based mobile applications, webinars, online modules for the Orthopaedic Knowledge Online website, radio media tours, and media briefings. In addition AUCs are also promoted in relevant Continuing Medical Education (CME) courses and distributed at the AAOS Resource Center.

Other dissemination efforts outside of the AAOS include submitting AUCs to the National Guideline Clearinghouse and to other medical specialty societies' meetings.

Implementation Tools

Mobile Device Resources

Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

American Academy of Orthopaedic Surgeons (AAOS). American Academy of Orthopaedic Surgeons appropriate use criteria for the management of pediatric supracondylar humerus fractures. Rosemont (IL): American Academy of Orthopaedic Surgeons (AAOS); 2014 Sep 5. 570 p. [2 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2014 Sep 5

Guideline Developer(s)

American Academy of Orthopaedic Surgeons - Medical Specialty Society

Source(s) of Funding

The American Academy of Orthopaedic Surgeons exclusively funded development of these Appropriate Use Criteria. The American Academy of Orthopaedic Surgeons received no funding from outside commercial sources to support the development of these Appropriate Use Criteria.

Guideline Committee

Appropriate Use Criteria for the Management of Pediatric Supracondylar Humerus Fractures Writing Panel

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Voting Panel Round Two Discussion Moderators: Michael Heggeness, MD; James O. Sanders, MD

Appropriate Use Criteria (AUC) Section Leader, Committee on Evidence-Based Quality and Value: James O. Sanders, MD

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Former Staff: Leeaht Gross

Financial Disclosures/Conflicts of Interest

In accordance with American Academy of Orthopaedic Surgeons policy, all individuals whose names appear as authors or contributors to this document filed a disclosure statement as part of the submission process. All authors provided full disclosure of potential conflicts of interest prior to participation in the development of these Appropriate Use Criteria. Disclosure information for all panel members can be found in Appendix B in the original guideline document.

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Electronic copies: Available from the [American Academy of Orthopaedic Surgeons \(AAOS\) Web site](#) .

Print copies: Available from the American Academy of Orthopaedic Surgeons, 9400 West Higgins Road, Rosemont, IL 60018-4262. Telephone: 800-346-AAOS (800-626-6726); Fax: 847-823-8125; Web site: www.aaos.org .

Availability of Companion Documents

The following are available:

- American Academy of Orthopaedic Surgeons (AAOS). American Academy of Orthopaedic Surgeons clinical practice guideline on the treatment of pediatric supracondylar humerus fractures. Rosemont (IL): American Academy of Orthopaedic Surgeons (AAOS); 2011. 229 p. Electronic copies: Available from the [American Academy of Orthopaedic Surgeons \(AAOS\) Web site](#) .
- AUC process. Rosemont (IL): American Academy of Orthopaedic Surgeons (AAOS). 9 p. Electronic copies: Available from the [AAOS Web site](#) .

An interactive literature review used for the appropriate use criteria for the management of pediatric supracondylar humerus fractures is available from the [AAOS Web site](#) .

A mobile app for the appropriate use criteria for the management of pediatric supracondylar humerus fractures is available from the [AAOS Web site](#) .

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on December 17, 2014. The information was verified by the guideline developer on January 7, 2015.

Copyright Statement

This NGC summary is based on the original guideline, which is subject to the guideline developer's copyright restrictions. For more information, please contact AAOS Department of Research and Scientific Affairs, 9400 West Higgins Road, Rosemont, IL 60018; Phone: (847) 823-7186; Fax: (847) 823-8125.

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